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PHYSICS FLASH

Summer 2021
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INSIDE

Los Alamos NATIONAL LABORATORY


Chris Frankle (back row, second from left) and his colleagues are a picture of intensity as they fixate on the countdown screens about two seconds before the Vega subcritical experiment is fired at the Nevada Nuclear Security Site U1a complex.

"One of the most underappreciated aspects of working at the Lab is the enormous breadth of problems to which you can contribute. Where else can you have a career where you can go from fundamental physics to hands-on work with nuclear weapons to watching your payload get launched riding on a ~billion dollar satellite to creating tools to help our military colleagues do their jobs at the pointy end of the spear."

Chris Frankle

Called to construct solutions for high-consequence challenges

For some 30 years at Los Alamos, Chris Frankle has wrestled with "wicked problems." That's a term he was introduced to while working on assignment on the "North Korean nuclear problem," as it was phrased at the time, for the Joint Staff in Washington, DC.

"LANL is most definitely one of the places the US government comes to when it has a 'wicked problem,' " said Frankle, who through his work in the Lab's weapons and global security programs has helped to deliver solutions. "For me it is about answering the challenge of providing our country with something it did not have before—whether that be a unique capability, data to answer a question, or simply a best technical judgement."

Frankle (Applied and Fundamental Physics, P-2) is the diagnostic coordinator for the Excalibur subcritical experiment (SCE) series, which aims to provide data to demonstrate the utility of a diagnostic called NDSE (for Neutron Diagnosed Subcritical Experiment) and to provide stockpile-relevant data on explosively driven plutonium.

As the experiment's "chief scientist," he is guiding the generation of data needed to maintain confidence in the stockpile in the absence of underground nuclear testing. This is the fifth SCE series for which he's held such a role.

continued on page 3

From Tanja's desk . . .

Despite these trying times, our work is progressing on all fronts.

Dear all,

Hard to believe—we are deep into the summer, and the days are getting shorter again! Our management team is close to complete, but in reality, we'll never be done as there always is turnover. Let me warmly welcome:

- Maria Rightley as P-2 group leader
- Dmitry Yarotski as P-4 group leader
- Gowri Srinivasan as P deputy division leader

With Maria moving to P-2, we have a deputy group leader slot open in P-1 and the search for two deputy group leaders in P-4 is in full swing. Please help us recruit outstanding candidates for these positions, including considering your own application.

Although things seemed to slowly revert to "normal," we are back to wearing masks as of today (Aug 3). We all are a bit frustrated that guidance is coming out slowly—at the time of writing, we don't have information yet on room occupancy, size limits for gatherings, and the like. It is my understanding that policy must be vetted with the NNSA, and CDC guidance is rapidly evolving, so I realize that it is challenging for our policy team to keep up. All we can do is be conservative—please always check with your RLM if in doubt. While he or she may not have black and white answers, we can then raise questions up the chain. Please all do your best to mitigate the spread of COVID, and protect yourself, our colleagues, and your loved ones.

Despite these trying times, our work is progressing on all fronts. We had a number of high profile reviews on the DOE Office of Science side. Earlier in the summer, we had the DOE Office of Science review of Richard Van de Water's Dark Matter New Initiative project, followed by a five- (actually almost six-) year review of all our Office of Science High Energy Physics programs—neutrino science (Sowjanya Gollapinni, Bill Louis, Elena Guardincerri), Coherent Captain Mills (Richard van de Water, Bill Louis), and HAWC (Andrea Albert, Pat Harding), with contributions from our students and postdocs affiliated with these projects. We only have received the preliminary reports but we have promising indicators that our programs are very well received. Congrats to all involved! Early in the spring, ORNL reviewed the SNS Neutron Electron Dipole Moment project (LANL lead Takeyasu Ito), and I'm proud to say that the LANL contribution truly is a key element to the project. Like many of its brethren, these multi-institutional efforts breaking new ground are extremely complex, and budget and schedule slips are common. I dare say that we are holding our end of the bargain! Talking about our Office of Science programs, I must mention that Matt Durham is the recipient of an Early Career Research Award for his project, Exotic Probes of Dense Nuclear Matter (see article on page 4). This is a terrific success. The bar for this award is extremely high, and likely even higher for anyone from an NNSA lab. Congrats, Matt!

Another of our highly visible projects (Pu@pRad) is also progressing nicely. The team, led by Tom Venhaus, is in the midst of implementing simplifications to the original design, which should bring the capability online quicker and at a lower cost. Our subcritical experiment team fielding the Nightshade series of experiments (led by Jeremy Danielson as the diagnostic coordinator) successfully executed Nightshade B earlier in the summer, and is now running in high gear to finish the series with Nightshade C before the end of the fiscal year. Meanwhile, the Excalibur team (led by Chris Frankle as diagnostic coordinator) is preparing to bring this new capability online. In collaboration with LLNL, the new neutron imaging system at NIF produced its first gamma image, providing a 3D view of an implosion (team led by Petr Volegov). The danger of listing any accomplishment is that of omission—there is so much more going on in our large and diverse division. Any accomplishment not listed in the above is no less impressive.

We are taking beam. Our industry program (led by Steve Wender) is working with customers, and experiments at Lujan, WNR, UCN, and pRad are in full swing.

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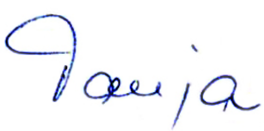


From Tanja's desk cont.

Whenever it's quiet in my office, it means that all our folks are doing what they should be doing—conducting work safely and securely, being mindful and circumspect. There were numerous occasions where alarms went off and our staff responded exactly like they should! Thank you all for making our division a safe space to work in, where we err on the side of caution if in doubt.

On that note, we have two major initiatives related to physical safety that are currently going on. We need to walk down all of our spaces and look for items that might contain or be made of Be. As you know, Be is harmful to human health. We have over 400 spaces to walk down, and some of them are as large as UCN, the pRad dome, ER1/2, WNR, or the Staging Area. Any walk down requires the presence of a line manager. Gowri and I will help with some of the common spaces—we are all in it together. While (honestly) a very time-consuming exercise, let's look at the bright side—us being forced to look into every single cabinet and open every drawer will likely cause disappeared items to re-emerge, "archaeological" discoveries to be made, and ultimately, when done, our spaces will look better and be safer. Please help your line managers with these walk downs and promptly respond to their requests for help. Jackie is coordinating the walk downs in the most efficient way. We need to be done by the end of March 2022, and obviously, we don't want to "cram" and put it off until February!

The second major activity is our pressure system walk downs. We are very slim on pressure safety officers in the division (thanks go to Bob and Vince!) and Jackie has identified points of contact who help us out. Again, please be responsive to any requests that you receive to ensure that all our pressure systems are up to snuff. Let me take this opportunity to thank all of our safety officers! I have charged Jackie to serve as their coordinator and also work on a succession plan. Ultimately, I would like to get us to a point where serving as a safety officer is no longer a "lifetime sentence" (folks like Billy and Dale come to mind—thank you!!!). I hope we can evolve to a system where everyone takes on such a position for a limited time, depending on his or her expertise. It will help increase our subject matter knowledge across the division, and does not place the burden on a select few individuals. We have to figure out what the right length of service is to make the training worthwhile (PSO training is particularly time consuming). The fewer safety officers we have, the less desirable this service becomes! Thanks in advance for your support.

With that, I wish you all a wonderful rest of the summer. Be well and please come and visit! I'd love to hear from you.

Physics Division Leader Tanja Pietraß ■

Frankle cont.

"Chris's extensive SCE experience and technical leadership is particularly important for the Excalibur project because he is guiding the implementation and demonstration of the new NDSE measurement technique," said Russ Olson, who directs the Lab's Nevada weapons experiments program. "He has the ability to anticipate issues and resolve problems that arise when establishing a new SCE diagnostic for the Laboratory."

Understanding the behavior of a complex element like plutonium under the extremes of temperature and pressure provided by the explosive is a challenging task, according to Frankle, who said he leads "an outstanding team" of approximately 100 scientists, engineers, and technicians who work underground for months preparing for a shot.

"Once you 'push the button' the experiment is over in microseconds and we have typically recorded hundreds of data channels totaling many gigabytes of data," he said. "These are high-cost/risk/consequence experiments that become seminal data sets when they succeed."

"Many people consider NDSE to be a new thing," Frankle said. "And this will be a new, modern incarnation, but the technique has been around in one form or another since the Manhattan Project. However, it has been decades since it was applied to a dynamic shot."

As part of this ambitious set of experiments, seven shots will be fired over the span of about two years, Frankle explained—one at the Dual Axis Radiographic Hydrodynamic Test Facility without NDSE, one "confirmatory" at the Nevada Nuclear Security Site U1a complex, followed by five plutonium shots. Adding to the complexity, taking place nearby will be the final experiments for the Nimble and Great Basin SCE series, renovations for the Excalibur series, and mining for installation of the Scorpius accelerator.

Frankle joined the Laboratory as a graduate research assistant in Physics Division, drawn by the opportunity to be part of an international collaboration probing a fundamental physics question in a new way. Los Alamos was, at the time, one of only two places in the world—the other in Russia—where the experiment could be performed. A director's postdoctoral fellowship and conversion to staff followed, along with the chance to apply his skills to solving those "wicked problems" he is called upon to confront.

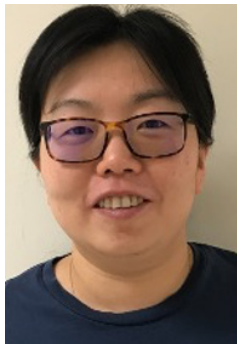
"One of the most underappreciated aspects of working at the Lab is the enormous breadth of problems to which you can contribute," Frankle said. "Where else can you have a career where you can go from fundamental physics to hands-on work with nuclear weapons to watching your payload get launched riding on a ~billion dollar satellite to creating tools to help our military colleagues do their jobs at the pointy end of the spear."

By Karen Kippen, ALDPS ■

Physics Division staff in the news


Cameron Dean


Yasser Morales


Xuan Li

Dean, Morales, Li recognized for high energy nuclear physics contributions at RHIC

For their outstanding high energy nuclear physics research and contributions to related programs at the Relativistic Heavy Ion Collider (RHIC), Cameron Dean, Yasser Morales, and Xuan Li received 2021 Merit Awards from the RHIC/AGS Users' Executive Committee.

Dean was cited "for his essential contributions to the heavy flavor program in sPHENIX through simulations as well as software and detector development." Morales was cited "for his outstanding contributions to the sPHENIX Monolithic-Active-Pixel-Sensor based Vertex Detector project." Li was recognized "for her exceptional contributions to the understanding of hadronic structure and nuclear matter with PHENIX, and her leadership in developing a heavy quark program at the future Electron-Ion Collider." All are members of the High Energy Nuclear Physics Team in Nuclear and Particle Physics and Applications (P-3).

Under construction at RHIC at Brookhaven National Laboratory, sPHENIX is a detector designed to study quark-gluon plasma using jet and heavy-flavor observables. PHENIX (for Pioneering High Energy Nuclear Interaction Experiment) was designed to study high energy collisions of heavy ions and protons. Analysis of the data generated is underway.

Postdoctoral researcher Dean joined the Lab in 2019. His work focuses on vertex development for sPHENIX, heavy flavor analysis for sPHENIX and LHCb—the Large Hadron Collider beauty experiment, and simulations for the Electron-Ion Collider. He earned his PhD in experimental particle physics from the University of Glasgow in 2019.

Postdoctoral researcher Morales, who joined Los Alamos in 2018, assists with sensor readout and data acquisition and hardware research and development for the sPHENIX experiment. He earned his PhD in 2015 at the University of Turin working with the A Large Ion Collider Experiment (ALICE) at CERN.

Staff scientist Li has applied advanced silicon detector technologies for fast, hard x-ray imaging at synchrotrons since 2018 and has been the co-principal investigator of the LANL Electron-Ion Collider Laboratory Directed Research and Development project since 2019. She received her PhD in high energy and nuclear physics in 2012 from Shandong University and completed her thesis research at Brookhaven National Laboratory.

Durham earns DOE Early Career Award for physics research


Matt Durham

Matt Durham (Nuclear and Particle Physics and Applications, P-3) is among 83 scientists who will receive a total of $100 million through the DOE Early Career Awards Program, which supports critical research at universities and national laboratories. The DOE program supports exceptional scientists working in the agency's priority research areas.

Durham's work with the Pioneering High Energy Nuclear Interaction Experiment (PHENIX) has made him a key player in the DOE Office of Science's Nuclear Physics Heavy Ion Program. Now he leads the study of exotic tetra-quark particles in heavy ion collisions at the Large Hadron Collider (LHC).

"Through this work, Matt has been able to provide the first information about the binding energy of these recently discovered exotic particles, and therefore constrain what class of particle they are," said P-3 Group Leader Melynda Brooks. "This original work will further explore the structure and formation mechanisms of the exotic particles by studying them in different collision systems at the LHC."

"This is an incredible honor for me, and I'm excited to be able to pursue this research further," said Durham, who joined the Laboratory in 2011. "Los Alamos has a unique research atmosphere where we can work on fundamental science questions and also solve important problems in the national interest, and these fields feed back and strengthen each other."

At international heavy ion conferences, Durham represented the PHENIX and Large Hadron Collider beauty collaborations. He was the plenary speaker at the Hard Probes 2020 Conference and has given invited talks at multiple other conferences and workshops, including the 2019 European Safeguards Research and Development Association Annual Meeting. Durham has authored or co-authored more than 300 papers that have accumulated over 10,000 citations.

Technical contact: Matt Durham

LANSCE neutron beam transport optimized via advanced collimation design techniques

Enables refined measurements of short-lived radioisotopes

To meet the specific and stringent requirements of modern high-precision nuclear physics experimental programs, LANL researchers have developed and installed an advanced neutron beam collimation system at the Weapons Neutron Research (WNR) Facility.

Exact nuclear cross section measurements of short-lived radioisotopes, important in both fundamental astrophysics and weapons science, are challenging—requiring high-flux, low-neutron-induced background, uniform beam spots, and accurate delivery.

These unique reaction measurements are executed at a newly developed instrument, hotLENZ (for "hot" Low-Energy Neutron-induced Charged-particle [Z] Chamber), installed at WNR path 90L, located almost 30 feet from WNR spallation target 4 at the Los Alamos Neutron Science Center. This distance makes aligning the collimation axis to what is better than the thickness of a piece of paper challenging.

To deliver the highest quality neutron beam on sample for these measurements, the team employed a high-resolution holistic approach to neutron transport. Their results delivered a uniform beam tailored to a specific profile that reached the maximum neutron flux possible and simultaneously reduced unwanted neutron background by several orders of magnitude. The system, described in an upcoming issue of *Nuclear Instruments & Methods in Physics Research*, met the requirements of the upcoming experimental campaign while seamlessly integrating with the WNR Facility.

Over the course of 18 months the multidisciplinary team upgraded the facility spallation target, facility metrology infrastructure, and flight path shutter insert to support implementing the advanced system. Using state-of-the-art 3D modeling, Monte Carlo N-Particle modeling studies, and cutting-edge metrology instruments, the team conducted facility surveys, as-built geometry characterization of critical components, 3D ray tracing, and neutron transport calculations.

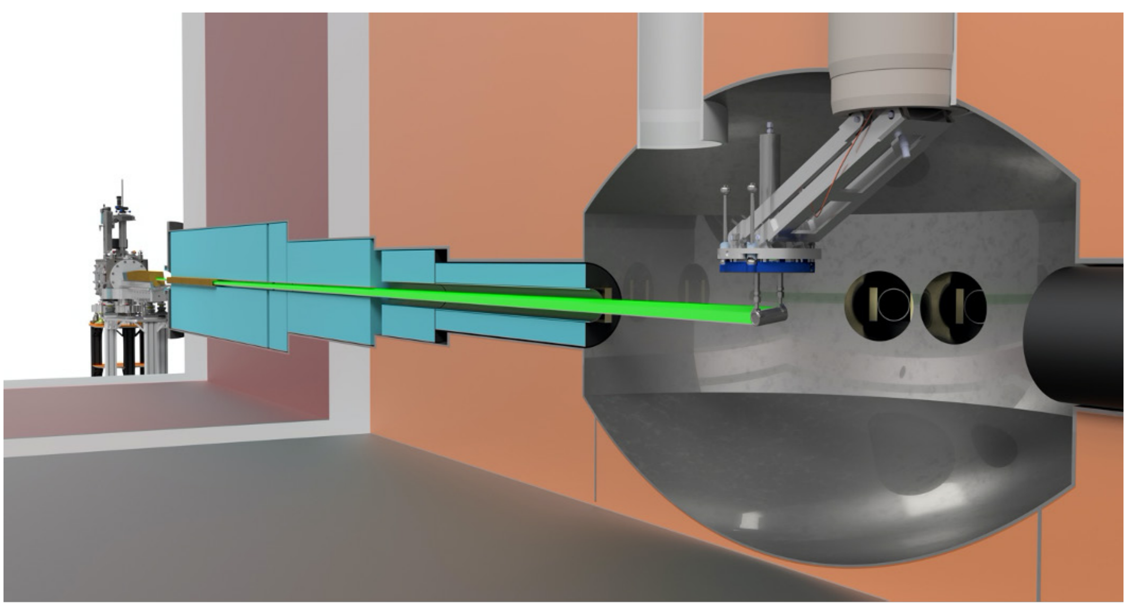
This approach to collimation design and neutron transport optimization can be applied to many other research programs and flight paths, increasing the quality of neutron beams delivered to flight path instruments. Furthermore, the current effort allowed for a radioactive ^{56}Ni sample measurement to be carried out with confidence that the optimal neutron flux was delivered on sample with minimal backgrounds.

Future proposed improvements to the WNR spallation target include an additional suite of proton beam diagnostics to streamline the tuning process, minimize the proton beam losses, and ensure optimal neutron production.

The work, performed under the auspices of the NNSA and Los Alamos's Laboratory Directed Research and Development Program in an Exploratory Research project, supports the Lab's National Security mission and its Nuclear and Particle Futures science pillar.

Researchers: Brad DiGiovine, Anastasia Georgiadou, Sean Kuvin, Hye Young Lee, Daniel Votaw (Nuclear and Particle Physics and Applications, P-3); Lukas Zavorka (ORNL); David Ballard (Mechanical Design Engineering, AOT-MDE); Jordon Marquis (Accelerator Operations, AOT-OPS); Cecilia Lledo (Actinide Analytical Chemistry, C-AAC); and Veronika Mocko, Etienne Vermeulen (Inorganic Isotope and Actinide Chemistry, C-IIAC).

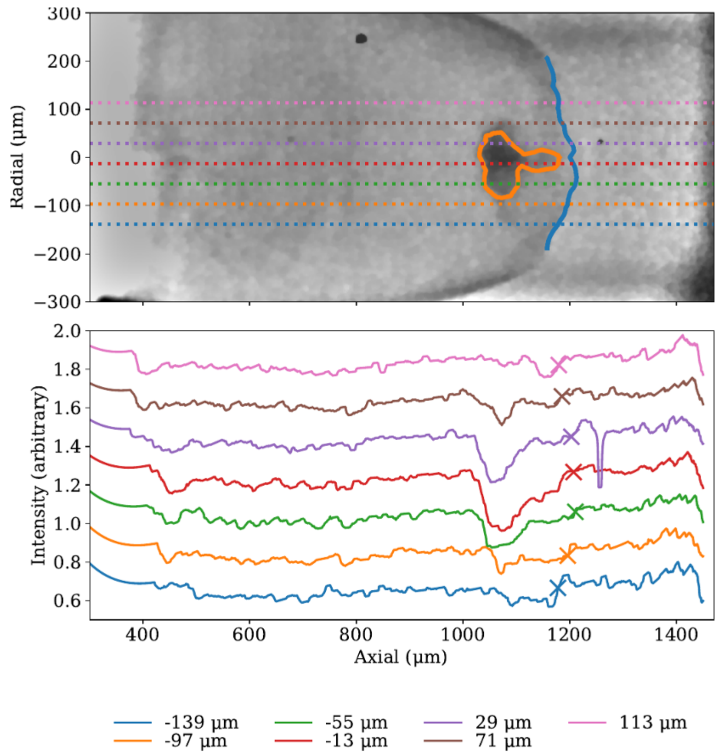
Technical contact: Brad DiGiovine



Rendering of a cutaway view of the holistic WNR optimization model developed as part of this effort. Right to left: WNR spallation target crypt housing the third generation T4 spallation target; allowed envelope of neutron trajectories (green); WNR bulk shield structure and flight path shutter (orange, red, gray, blue); newly designed shutter insert and optimized collimation system (brass); and hotLENZ instrument.

Novel application of 'computer vision' techniques tracks 2D contours of plasma flow features in radiographic images

Radiography is a fundamental diagnostic for understanding hydrodynamic flows in high-energy-density (HED) plasma experiments. While the hardware and techniques used in acquiring radiographs have vastly improved, the techniques used in analyzing HED plasma radiographs have remained limited. Recent application of "computer vision" techniques has now improved denoising and contrast enhancement, as well as enabled the extraction of full 2D contours of plasma features in a semi-automated and reproducible manner.



The figure at right displays a radiograph of a shock-bubble interaction (SBI) from the Marble VC campaign fielded on Omega-60. In these experiments, a shock travels from left to right and meets a bubble with different density. The sudden jump in acoustic impedance drives a number of complex effects, including shock defocusing, vorticity deposition, and compression/deformation of the bubble, which provide a test of understanding hydrodynamics in inhomogeneous systems.

Using computer vision techniques, LANL researchers have extracted the shock front contour (blue) and bubble perimeter contour (orange) and overlaid them onto the radiograph. For comparison, the horizontal dashed lines indicate 1D lineout positions corresponding to the plots in the bottom of the figure. The shock front location is marked by an "x" along each lineout, and shows that while the shock front position is generally located along gradients in intensity, a 1D lineout analysis would fail where a clear gradient is not present, such as along the red (-13 μm) contour. The power of these computer vision techniques lies in using the full 2D spatial information in the image to fill in the gaps where 1D analyses would fail.

These 2D contours from the experiment can be directly and quantitatively compared to synthetic radiographs produced from radiation-hydrodynamic simulations, which is a significant improvement over side-by-side visual comparisons of synthetic and experimental images. By including 2D information, rad-hydro codes can be further constrained to correctly capture radial gradients in laser or x-ray drive energy, which affect the curvature of shock fronts, as well as acoustic impedance effects, which govern the morphology of SBI.

In addition, using the 2D contours of shock fronts and bubbles from orthogonal lines of sight, the researchers can quantitatively assess cylindrical symmetry within HED shock tube experiments, which is important for understanding the growth of instabilities in the baroclinic vorticity of these systems.

The computer vision analysis pipeline is general enough to be applied to other campaigns, such as COAX, Radishock, and OUTI (also fielded on Omega-60), which study radiation flow in inhomogeneous systems. The researchers have not only extracted shock front contours, which emerge during the cooling of the initial Marshak wave, but have discovered secondary features, such as shock tube wall inflows and density buildups behind the shock front, which can further constrain rad-hydro simulations. There is a wealth of features encoded within their radiographs, which the researchers are only beginning to understand and quantitatively capture.

This work was featured in an invited talk for the High Temperature Plasma Diagnostics Conference and in an invited article in *Review of Scientific Instruments*. Reference: "Use of computer vision for analysis of image datasets from high temperature plasma experiments," *AIP Review of Scientific Instruments* 92 (3) 033532 (2021). The work, funded by the Office of Experimental Sciences Science Campaigns, supports the Lab's Stockpile Stewardship mission and its Nuclear and Particle Futures science pillar.

Participants include: Pawel Kozlowski, Yongho Kim, Tom Murphy, Harry Robey, Heather Johns, Ted Perry (Thermonuclear Plasma Physics, P-4); Tom Day, Tana Morrow, Alex Strickland (Engineered Materials, MST-7); Brian Haines (Eulerian Codes, XCP-2); Reid Porter (Information Sciences, CCS-3); Chris Fryer, Shane Coffing (Computational Physics and Methods, CCS-2); Todd Urbatsch, Suzannah Wood (XTD Integrated Design and Assessment, XTD-IDA); and Brian Albright (XTD Primary Physics, XTD-PRI).

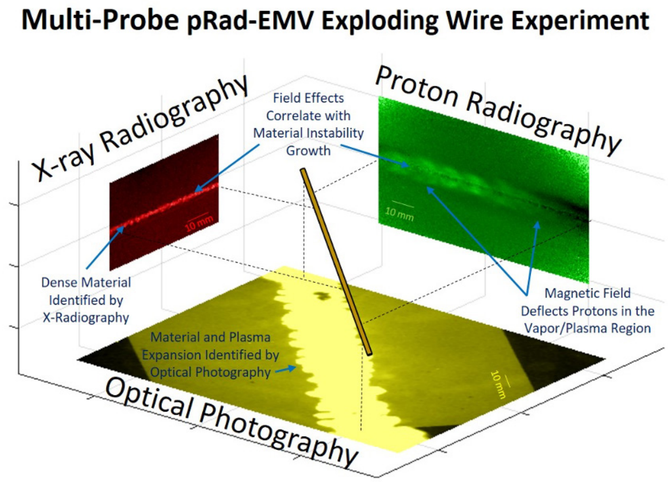
Technical contact: Pawel Kozlowski

Using pRad to visualize electromagnetic fields

Predicting how electrical current flows through complex, multi-material environments, including phenomena such as dynamic material failure and fragmentation, is difficult. Complications of failure dynamics including instability growth and new surface generation combine with turbulent mixing and material phase transformations to produce continually varying conduction properties. The capability to predict how current flows through these harsh environments, however, is crucial to the development of advanced Department of Defense protection and lethality concepts, and appeals to a broad spectrum of pulsed-power/high-potential electrical applications.

To advance on the electrical flow prediction capability, scientists from DEVCOM Army Research Laboratory, Los Alamos National Laboratory, and Nevada National Security Site have developed an experimental campaign to explore using LANL's lens-based Proton Radiography (pRad) Facility to radiograph targets that purposefully include electromagnetic fields. The result led to development of a new capability allowing for visualization of magnetic fields, in situ, during dynamic experiments. The capability is similar to that of proton deflectometry, but benefits by using the accelerator-generated 800-MeV protons and removal of the detector system from the potentially harsh local target environment. The technique provides the capability to supply vital insight to theory development and code validation of electrical flow by allowing for visualization of the electromagnetic states during the conduction process.

To demonstrate the technique's usefulness, a series of multi-probe experiments were conducted in which 1.6-mm-diameter copper rods were electrically energized and burst using a capacitive drive. The experiments paired the pRad electromagnetic visualization (pRad-EMV) technique with multi-pulse flash x-ray radiography and optical photography to assess the dynamic electrical and



Multi-probe assessment of an electrically energized and burst wire including pRad-EMV, x-ray radiography, and optical photography. The dark copper-colored rod superimposed in the center of the figure represents the position of a 1.6-mm-diameter copper rod prior to electrical impulse. Using multiple diagnostics simultaneously allowed for temporal assessment of the material states and the magnetic field structure (correlated with electrical conduction paths) throughout the bursting process.

material states, simultaneously. After validating the pRad-EMV technique using targets that produced known magnetic fields of closed-form solution (i.e., electrically energized straight rod), the system was used to inspect multiple aspects of dynamically changing electrically burst rods. The experiments inspected magnetic fields of magnitudes up to ~40 T generated by currents of up to ~150 kA propagating through fields containing conducting and insulating particles, gases, and plasmas. The results are currently being analyzed and will be used to assess theory and validate magnetohydrodynamics models.

The work supports the Lab's National Security Science mission and Materials for the Future and Nuclear and Particle Futures science pillars. DEVCOM Army Research Laboratory researchers include M.B. Zellner, W.C. Uhlig, P.R. Berning, R.L. Doney III. LANL researchers include L.P. Neukirch, M.S. Freeman (Dynamic Imaging Radiography, P-1); J.T. Bradley III, H.J. Gaus III, L.N. Merrill (RF Engineering, AOT-RFE); and C.H. Wilde, W.Z. Meijer (P-1). Nevada National Security Site researchers include D. Phillips, D. Guerrero, L. Fegenbush.

Technical contacts: M.B. Zellner or L.P. Neukirch/M.S. Freeman

References:
1. A. J. Mackinnon, P. K. Patel, R. P. Town, M. J. Edwards, T. Phillips, S. C. Lerner, D. W. Price, D. Hicks, M. H. Key, S. Hatchett, S. C. Wilks, "Proton radiography as an electromagnetic field and density perturbation diagnostic," *Review of Scientific Instruments*, 75, (2004).
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To submit news items or for more information, contact Karen Kippen, ALDPS Communications, at 505-606-1822 or aldps-comm@lanl.gov.

For past issues, see www.lanl.gov/org/ddste/aldps/physics/physics-flash-archive.php.

Los Alamos NATIONAL LABORATORY

NNSA National Nuclear Security Administration

Coherent Captain Mills one step closer in search for the dark sector

The Coherent Captain Mills (CCM) experiment aims to search for new types of exotic particles such as sterile neutrinos, axions, and dark photons. If confirmed, this could provide a portal to uncovering the intriguing mysteries of dark matter and dark energy that make up the bulk of the universe.

Above, workers at the Los Alamos Neutron Science Center (LANSCE) lower the photomultiplier detector array into the CCM vessel, which will soon be filled with 10 tons of cryogenic liquid argon. The photomultipliers tubes capture scintillation light that indicates the potential presence of exotic particle scattering in the CCM detector, which is theorized to be produced by LANSCE intense short pulse 800-MeV protons striking the tungsten target at the Lujan Center.

The experiment is planned to run during this year's LANSCE beam run cycle. The Los Alamos-led experiment was designed and built by a team of researchers from across the country. LANL Laboratory Directed Research and Development and the DOE Office of Science High Energy Physics program fund the project.

HeadsUP!

Know the members of your P WESST

The Physics Division Worker Environmental, Safety, and Security Team meets every third Thursday of the month. Be sure to share with your group representative any concerns or topics you would like to see discussed.

- Takeyasu Ito (chair)
- Tiffany Desjardins (co-chair)
- Andy Chavez
- Christine War
- Hermann Geppert-Kleinrath
- Jonathan Hudston
- Jackie Mirabal (ALDPS WESST representative)
- Keegan Kelly
- Matt Freeman
- Sha-Marie Arnaudville
- Tanja Pietraß, Gowri Srinivasan (ex officio)
- P Division group managers (ex officio)

Celebrating service

Congratulations to the following Physics Division employees who recently celebrated service anniversaries:

William Buttler, P-2	30 years
Chris Frankle, P-2	30 years
Martin Schauer, P-2	30 years
Steven Batha, P-4	25 years
Melvin Borrego, P-2	20 years
Anna Llobet, P-1	20 years
Richard Van de Water, P-2	20 years
Thomas Venhaus, P-1	20 years
Joseph Cowan, P-4	15 years
Paul Koehler, P-3	15 years
Sky Sjue, P-1	10 years
Carl Wilde, P-1	10 years
Derek Aberle, P-1	5 years
Andrea Albert, P-3	5 years
Margarita Caballero, P-2	5 years
Tiffany Desjardins, P-2	5 years
Thomas Hartsfield, P-2	5 years
Kwyntero Kelso, P-2	5 years
Kevin Meaney, P-4	5 years
Tanja Pietraß, P-DO	5 years
Noah Ratcliff, P-3	5 years
Monica Trujillo, P-3	5 years